



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

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D4680-041
Job Sheet 202564



Part No: D4680-041

Job Qty: 1 pcs

Part Name: Skidtube Assembly



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/30/19

Job Tracking No:

Due Date: 11/21/19

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG D4680 REV.G IPP REV:A 13.04.16 NEW ISSUE DD VERF:JLM IPP REV:B 13.08.08 PB2 DD VERF:JLM IPP REV:C 13.09.10 PB3 DD VERF:JLM IPP REV:D 13.11.14 AS PER DWG REV.B DD VERF:JLM IPP REV:C 14.11.24 AS PER DWG REV.C DD VERF:JLM IPP REV:D 15.06.10 AS PER DWG REV.D DD VERF:JLM IPP REV:E 16.03.23 AS PER DWG REV.E DD VERF:JLM IPP REV:F 19.09.18 AS PER DWG REV.G DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
120	Skidtubes - 1	1 pcs	11/21/19		0.00	1.14	Skidtubes - 1		
							Skidtubes - 2		
							Skidtubes - 3		
							Skidtubes - 4		
							Skidtubes - 5		
							Skidtubes - 6		
							Skidtubes - 7		
140	QC 5	1 pcs	11/21/19		0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		
150	Handfinish - 1-1 Chemical-B4B	1 pcs	11/21/19		0.00	0.73	Handfinish - 1 - 1 - B4B		

DAS

NOV 21 2019 68

9-89



Container No: S233683



Part: D4680 - 041

Job No: 202564

Serial No/Batch: S233683

Revision: G

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.
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CANADA
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Date: 11/21/19

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				Handfinish - 1 - 2 - B4B	
				Handfinish - 1 - 3 - B4B	NOV 22 2019
				Handfinish - 1 - 4 - B4B	
				Handfinish - 1 - 5 - B4B	
				Handfinish - 1 - 6 - B4B	
				Handfinish - 1 - 7 - B4B	
				Handfinish - 1 - 8 - B4B	
				Handfinish - 1 - 9 - B4B	
				Handfinish - 1 - 10 - B4B	
				Handfinish - 1 - 11 - B4B	
				Handfinish - 1 - 12 - B4B	
				Handfinish - 1 - 13 - B4B	
				Handfinish - 1 - 14 - B4B	
				Handfinish - 1 - 15 - B4B	
				Handfinish - 1 - 16 - B4B	
				Handfinish - 1 - 17 - B4B	
				Handfinish - 1 - 18 - B4B	
				Handfinish - 1 - 19 - B4B	
				Handfinish - 1 - 20 - B4B	
				Handfinish - 1 - 21 - B4B	
				Handfinish - 1 - 22 - B4B	
160 QC 7	1 pcs	11/21/19	0.00 0.00	QC 7 - 10	
				QC 7 - 13	
				QC 7 - 14	
				QC 7 - 15	
				QC 7 - 17	
				QC 7 - 18	
				QC 7 - 19	
				QC 7 - 2	
				QC 7 - 28	
				QC 7 - 3	
				QC 7 - 30	
				QC 7 - 34	
				QC 7 - 36	
				QC 7 - 37	
				QC 7 - 41	
				QC 7 - 47	
				QC 7 - 48	
				QC 7 - 51	
				QC 7 - 58	
				QC 7 - 59	
				QC 7 - 60	MAS
				Plex 10/30/19 12:37 PM Dart.lajeunesse.marie	

						QC 7 - 9	
						QC 7 - 68	
						QC 7 - 50	
						QC 7 - 67	
						QC 7 - 40	
						QC 7 - 24	
						QC 7 - 43	
						QC 7 - 61	
						QC 7 - 81	
						QC 7 - 76	
						QC 7 - 79	
170 Skidtubes - 2 - B4B	1 pcs	11/21/19	0.00	4.86		Skidtubes - 1 - B4B	00
						Skidtubes - 2 - B4B	
						Skidtubes - 3 - B4B	
						Skidtubes - 4 - B4B	
						Skidtubes - 5 - B4B	
						Skidtubes - 6 - B4B	
						Skidtubes - 7 - B4B	
180 QC 5	1 pcs	11/21/19	0.00	0.00		QC 5 - 10	
						QC 5 - 12	
						QC 5 - 17	
						QC 5 - 18	
						QC 5 - 19	
						QC 5 - 22	
						QC 5 - 24	
						QC 5 - 3	
						QC 5 - 43	
						QC 5 - 49	
						QC 5 - 51	
						QC 5 - 58	
						QC 5 - 68	NOV 27 2019 68
						QC 5 - 9	9-89
						QC 5 - 50	
						QC 5 - 30	
						QC 5 - 40	
						QC 5 - 61	
						QC 5 - 81	
210 Handfinish - 2-1 Pressure-B4B	1 pcs	11/21/19	0.00	0.73		Handfinish - 2 - 1 - B4B	
						Handfinish - 2 - 2 - B4B	NOV 28 2019
						Handfinish - 2 - 3 - B4B	
						Handfinish - 2 - 4 - B4B	
220 Powdercoat - 1 White GI(A)-B4B	1 pcs	11/21/19	0.00	0.17		Powdercoat - 1 - B4B	
						Powdercoat - 2 - B4B	BEF19-11-28
						Powdercoat - 3 - B4B	
						Powdercoat - 4 - B4B	
230 QC 3	1 pcs	11/21/19	0.00	0.00		QC 3 - 10	
						QC 3 - 13	
						QC 3 - 15	14-11-29
						QC 3 - 17	
						QC 3 - 18	
						QC 3 - 2	
						QC 3 - 28	
						QC 3 - 3	
						QC 3 - 30	
						QC 3 - 34	
						QC 3 - 36	

					QC 3 - 41	
					QC 3 - 51	
					QC 3 - 58	
					QC 3 - 59	
					QC 3 - 68	
					QC 3 - 9	
					QC 3 - 40	
					QC 3 - 19	
					QC 3 - 43	
					QC 3 - 24	
					QC 3 - 61	
					QC 3 - 81	
260	Handfinish - 4-1-Assembly-B4B	1 pcs	11/21/19	0.00 0.73	Handfinish - 4 - 1 - B4B	11/19-11-25
					Handfinish - 4 - 10 - B4B	
					Handfinish - 4 - 11 - B4B	
					Handfinish - 4 - 12 - B4B	
					Handfinish - 4 - 13 - B4B	
					Handfinish - 4 - 14 - B4B	
					Handfinish - 4 - 15 - B4B	
					Handfinish - 4 - 2 - B4B	
					Handfinish - 4 - 3 - B4B	
					Handfinish - 4 - 4 - B4B	
					Handfinish - 4 - 5 - B4B	
					Handfinish - 4 - 6 - B4B	
					Handfinish - 4 - 7 - B4B	
					Handfinish - 4 - 8 - B4B	
					Handfinish - 4 - 9 - B4B	
270	QC 5	1 pcs	11/21/19	0.00 0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
					QC 5 - 61	
					QC 5 - 81	
300	Packaging 3-1 - Stock - B4B	1	11/21/19	0.00 0.00	Packaging 3 - 1 - B4B	

pcs

				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
310 QC 21 - SA	1	11/21/19	0.00 0.00	QC 21 - SA - 21	
	pcs			QC 21 - SA - 70	
				QC 21 - SA - 53	

Part Op 120 - DRILL NEW NUT PLATE HOLES 1-Cut Aft end as per dwg D4680 3-Drill Aft & Fwd Cap holes using DT8678 & Descriptions: DT8901 open aft cap 0.187". 4-Locate DT10149 & Drill Ground wire hole on top of Tube. 5-Locate DT10149 with 0.187" cleco in aft cap, then Pilot Drill all X-Bolt holes using 0.187" drill. 6-Open ground wire hole 297.1 at 95.75" (3" at fwd end & 2 at aft end at 20.81" ref.) 8- 3 most fwd x-bolt holes must be laid out manually, open to #30. 9-Open Aft & Fwd Cap holes using .208" drill. 10- Open X-Bolt holes to .750" (10 places) 11- Drill Rivet Holes as per Dwg D4680 using DT10065 ***DO NOT DRILL RIVET HOLES ON SECTION G-G (TWO PLACES) Open G-G to .750 12-Deburr holes.

140 - (QC5- Inspect part completeness to step on W/O)
 150 - (Chemical Conversion Coat per QSI005 4.1)
 160 - (QC7-Inspect Chemical Conversion Coat)
 170 - 1- Install nuttplate as per dwg (Detail L) 2- Bond web as per Dwg D4680 & QSI 015 2- Seal all faying surfaces using proseal and rivet Doubler as per Dwg D4680. A/R Proseal Batch: 522985 exp date: 3/80
 LET IT CURE FOR 7HRS START TIME: _____ FINISH TIME: _____ 3- Rivet doublers as per dwg Shave rivet as required, remove Proseal spill over. 4- Ream holes section C-C as per dwg, deburr 8 places 5- Swage x-bolt spacers as per Dwg D4680 and section C-C 8 places. 6- Swage x-bolt spacer as per dwg D4680 section G-G 7- Trim/Grind flush per QSI 002
 180 - (QC5- Inspect part completeness to step on W/O)
 210 - (Pressure Wash per QSI005 4.3/ Clean and remove all markings), Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.
 220 - ****PLUG GROUND WIRE HOLE AS PER SECTION E-E**** (White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum), START TIME: 12:30 OVEN TEMPERATURE: 320 FINISH TIME: 1:00 M211PFLG
 230 - (QC3- Inspect Part Finish)
 260 - (Assemble as per dwg), 1- Install Ground Wire inserts as per Dwg D4680. 2-Inspect for Foreign objects 3- Install Fwd & Aft caps as per Dwg D4680 and Detail "A" & "B". Fastener must be install wet as per note (9). Seal all faying surfaces note (8) A/R 241 Sika Flex Batch: 523093 Exp Date: 20-7-15 4- Wing Walk as per Dwg D4680 and QSI 005 4.4 Batch: 5229693
 270 - (QC5- Inspect part completeness to step on W/O)

300 - (Identify as per dwg & Stock Location: _____)

310 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D4680-041-BENT	Extrusion Bent	1 pcs (1 ea)	120-Skiddtubes - 1	013672
D5520-1	Doubler	2 pcs (2 ea)	120-Skiddtubes - 1	5167278
CR1122-3-02.5	Rivet	4 Ea (4 ea)	170-Skiddtubes - 2 - B4B	5218923
CR3212-5-05	Rivet	68 pcs (68 ea)	170-Skiddtubes - 2 - B4B	5100424
D4681-041	Web Assembly	1 pcs (1 ea)	170-Skiddtubes - 2 - B4B	5231315
D4686-1	Spacer	8 pcs (8 ea)	170-Skiddtubes - 2 - B4B	5225471
D5304-1	Crossbolt Spacer	2 pcs (2 ea)	170-Skiddtubes - 2 - B4B	5221918
MS20601-AD4W3	Rivet	32 Ea (32 ea)	170-Skiddtubes - 2 - B4B	5216395
MS21048L4	Nut Plate	2 Ea (2 ea)	170-Skiddtubes - 2 - B4B	5227195
AELS-1032-130	Rivnut	3 Ea (3 ea)	260-Handfinish - 4-1-Assembly-B4B	5167240
AN3C4A	Bolt	3 Ea (3 ea)	260-Handfinish - 4-1-Assembly-B4B	5085687
AN3C5A	Bolt	2 Ea (2 ea)	260-Handfinish - 4-1-Assembly-B4B	5217813
AN526C1032R10	Screw	2 Ea (2 ea)	260-Handfinish - 4-1-Assembly-B4B	5123443
D2965	Cap	1 pcs (1 ea)	260-Handfinish - 4-1-Assembly-B4B	5166906
D2965-3	Cap	1 pcs (1 ea)	260-Handfinish - 4-1-Assembly-B4B	5126570
D3672-1	Washer, Phenolic	2 pcs (2 ea)	260-Handfinish - 4-1-Assembly-B4B	5166574
NAS1149C0332R	Washer (AN960C10L)	5 Ea (5 ea)	260-Handfinish - 4-1-Assembly-B4B	5164008
D4753-1	Doubler	16 pcs (16 ea)	300-Packaging 3-1 - Stock - B4B	5225629

Job Allocations

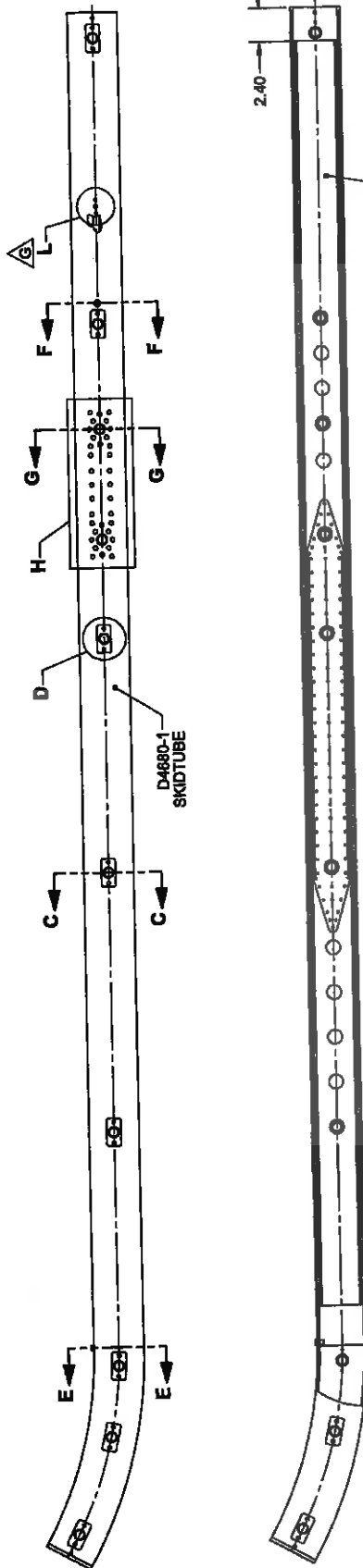
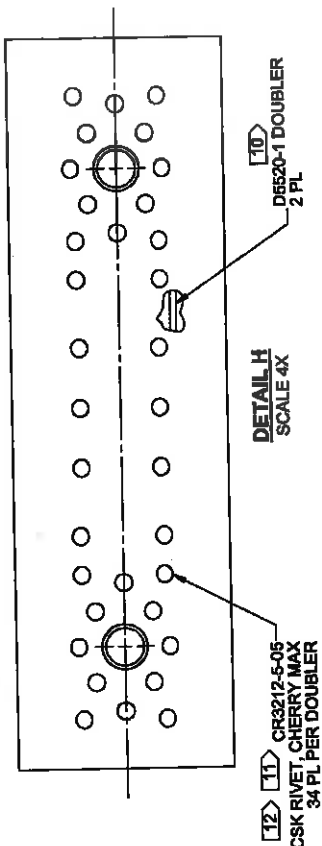
Operation	Component Part	Required	Inventory	Allocated
120-Skiddtubes - 1	D4680-041-BENT	1	16	0
	D5520-1	2	34	0
170-Skiddtubes - 2 - B4B	CR1122-3-02.5	4	32	0
	CR3212-5-05	68	820	0
	D4681-041	1	4	0
	D4686-1	8	80	0
	D5304-1	2	29	0
	MS20601-AD4W3	32	1,058	0
	MS21048L4	2	7	0
260-Handfinish - 4-1-Assembly-B4B	AELS-1032-130	3	8	0
	AN3C4A	3	1,350	0
	AN3C5A	2	573	0
	AN526C1032R10	2	33	0
	D2965	1	40	0
	D2965-3	1	37	0
	D3672-1	2	1,221	0
	NAS1149C0332R	5	4,552	0
300-Packaging 3-1 - Stock - B4B	D4753-1	16	130	0

Part Specifications

Specifications could not be found.

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QTY	P/N	DESCRIPTION
1	D4680-043	SKIDTUBE SUB ASSY
1	D4680-1	SKIDTUBE
1	D4681-041	WEB ASSY
8	D4688-1	SPACER
16	D4763-1	DOUBLER
2	D5304-1	CROSSBOLT SPACER
2	D5620-1	DOUBLER
3	AEIS-1032-130	INSERT
3	AN3C4A	BOLT
4	CR1122-3-02.5	RIVET
88	CR3212-5-05	CSK RIVET, CHERRY MAX
32	MS20601AD4W3	RIVET, BLIND, CSK
2	MS21048L4	NUTPLATE
3	NAS1149C0332R	WASHER



D4680-043 SKIDTUBE SUB ASSY

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 13.9 lbs
 - 8) SEAL ALL MATING SURFACES USING PROSEAL 8801/422 OR MIL-S-8802 CLASS B2 SEALANT
 - 9) INSERT D4681-041 WEB INTO D4680-1 SKIDTUBE IN LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX 241/281 ADHESIVE PER DART QSI 015
 - 10) LOCATE THE D5620-1 DOUBLER USING THE Ø0.188 PILOT HOLES ON THE SKIDTUBE AND DOUBLER
 - 11) LOCATE QTY (34) HOLES ONTO THE SKIDTUBE PER D5620-1 DOUBLER AND DRILL Ø0.161 THRU SKIDTUBE AND DOUBLER USING DT10309
 - 12) COUNTERSINK THE SKIDTUBE Ø0.286 X 100° (34 PL) AND INSTALL EACH D5620-1 DOUBLER USING QTY (34) CR3212-5-05 CSK RIVETS

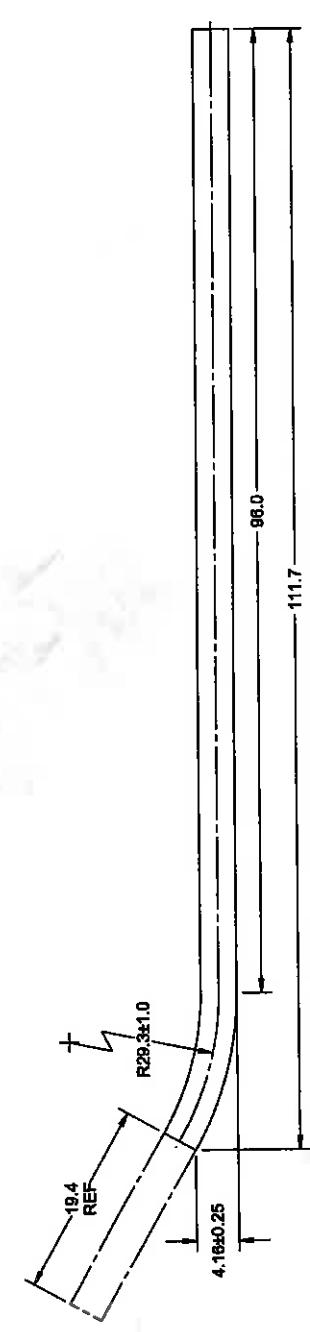
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2019 SEP 10 /P

APPROVED

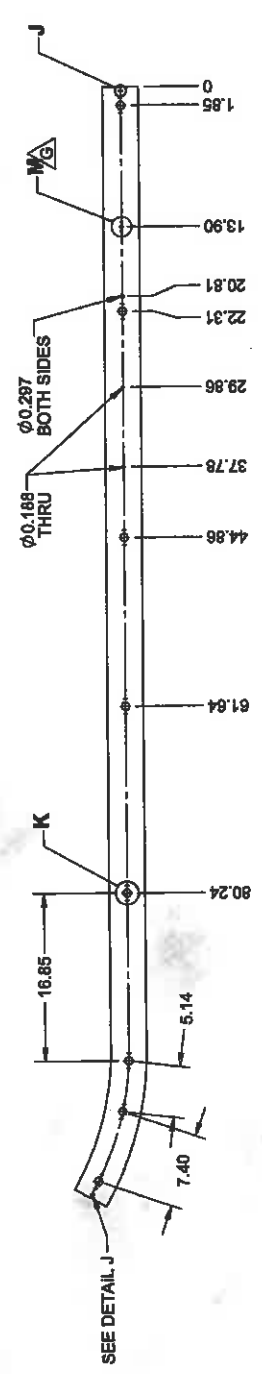
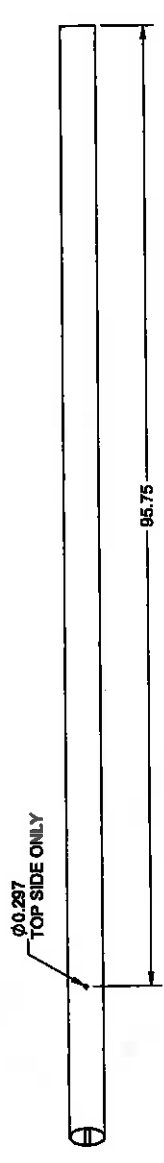
DESIGN	AP	ZF	MM	DD	NO	DS	19.03.28
DRAWN							
CHECKED							
MFG. APPR.							
APPROVED							
DE APPR.							
DATE							

DART AEROSPACE USA, INC.
HILLSBORO, OR
DRAWING NO. D4680
REV. G
SHEET 3 OF 6
SCALE
NTS
SKIDTUBE
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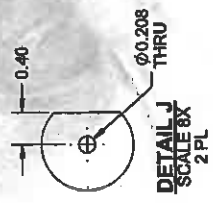
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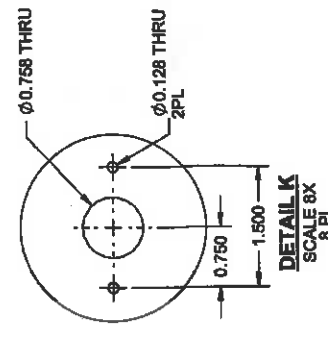
D4680-1 SKIDTUBE BENDING/TRIMMING DETAIL



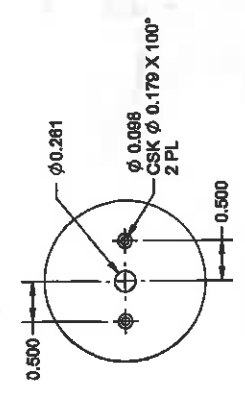
D4680-1 SKIDTUBE DRILLING DETAIL



**DETAIL J
SCALE 8X
2 PL**



**DETAIL K
SCALE 8X
8 PL**



**DETAIL M
SCALE 8X
BOTH SIDES**

DESIGN	AP	ZF	MW	DD	NO	DATE	19.03.28
DRAWN							
CHECKED							
MFG. APPR.							
APPROVED							
DE APPR.							
DRAWING NO.	D4680						REV. G
TITLE	SKIDTUBE						SCALE
DATE	19.03.28						NTS

DART AEROSPACE USA, INC.
HILLSBORO, OR

RELEASED
2018 SEP 10 06

- NOTES:
- 1) MATERIAL: MAKE FROM D2982-150 EXTRUSION
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 - 3) TOLERANCES: PER DART QSI 016 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 11.36 lbs

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Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

DISPOSITION		DEPARTMENT/PROCESS																																																																																			
Job: _____	Rework ☐ Scrap ☐ Use-as-is ☐	Skid-tube ☐ Machining ☐ Large Fab ☐	Cross tube ☐ Small Fab ☐ Finishing ☐	Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐	Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐																																																																																
Date: _____	Sequence #: _____	QTY Affected: _____		MRB (QS1042) _____																																																																																	
Description Work Order Deviation		Disposition																																																																																			
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